EXHIBIT 9

ELECTRONIC VOTING SYSTEM SECURITY

WEDNESDAY, JULY 7, 2004

House of Representatives,
Committee on House Administration,
Washington, DC.

The committee met, pursuant to call, at 11:00 a.m., in room 1310, Longworth House Office Building, Hon. Robert W. Ney (chairman of the committee) presiding.

Present: Representatives Ney, Ehlers, Mica, Larson, Millender-McDonald, and Brady.

Also Present: Representatives Hoyer and Holt.

Staff Present: Paul Vinovich, Staff Director; Matt Petersen, Counsel; Payam Zakipour, Professional Staff Member; George Shevlin, Minority Staff Director; Charlie Howell, Minority Chief Counsel; Matt Pincus, Minority Professional Staff Member; Catherine Tran, Minority Professional Staff Member; Thomas Hicks, Minority Professional Staff Member; and Kellie Cass-Broussard, Minority Professional Staff Member.

The CHAIRMAN. The committee will come to order. I am going to begin my opening statement. Mr. Larson is on his way and we have Mr. Ehlers. The committee is meeting today to discuss electronic voting system security, an issue that has garnered extensive media attention and produced impassioned opinions on all sides in recent months. Hopefully, this committee hearing will be able to shed some light on a matter that has certainly generated plenty of intense heat across the Nation. After the controversial presidential election of 2000, in which the term "hanging chad" became part of the national lexicon, Congress enacted and President Bush signed the Help America Vote Act, known as HAVA, to help restore the American public's confidence in the Federal electoral process. The goals of HAVA are simple: to ensure that all eligible Americans have an equal opportunity to vote and have their votes counted, to protect against legal votes being cancelled out by illegal votes, basically making it easier to vote and harder to cheat.

To accomplish these objectives, HAVA established new voter rights providing for second-chance voting, provisional ballots and enhanced access for individuals with disabilities; specifies new voting standards, requires each State to implement a computerized statewide voter registration database; and requires each polling place to publicly post certain voting information, such as sample ballots, instructions regarding provisional ballots and polling place hours. To address issues relating to the security of voting technologies, HAVA creates the Technical Guidelines Development Committee (TGDC) chaired by the director of the National Institute

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The CHAIRMAN. Ms. Rogers.

STATEMENT OF KATHY ROGERS

Ms. ROGERS. Thank you very much. As you know, the 2002 general election was a milestone in Georgia history as we became the very first State in the Nation to implement a statewide uniform electronic system of voting. On that one day on November 2, 2002, many concerns and fears were laid to rest. The elderly did not have trouble voting on Election Day and voters were not afraid of the new technology. For the very first time, every voter was afforded an opportunity to vote on the same equipment, using the same interface as their neighbor in the next county.

That fact seems to be forgotten today. By upgrading our voting system platform, Georgia corrected a problem which was very close to being a disaster. And in the almost 2 years since that very first successful election, Georgia counties have conducted over 450 individual elections using the statewide uniform electronic voting system. Georgia voters have expressed their approval in not one but two independent studies which were conducted by the University of Georgia. These studies found that Georgians overwhelmingly prefer electronic voting to any other means. More than 70 percent of the respondents reported they were very confident that their vote was accurately counted, and some 97 percent reported that they experienced no difficulties whatsoever when using electronic voting. These numbers have already been thrown out, but I don't think it hurts to reiterate them again.

Six years ago on our antiquated voting platforms, the top of the ballot of the U.S. Senate race was a 4.8 percent undervote rate of total ballots cast. Of enormous concern to us was also our analysis of 90 minority precincts in which we showed an extremely high undervote rate that in some cases topped 10 percent in predominantly African Americans precincts. After 2002 and the deployment of our new system, the undervote rate in the top of the ticket ballot was reduced to a mere .87 percent. That is a fivefold reduction in undervoting.

The paper receipt debate has generated a great deal of inaccurate, false, and misleading information by those who are calling for its very hurried implementation. Conspiracy theories do abound. No system, as has been stated earlier, whether electronic, mechanical, or paper based, can be made 100 percent invulnerable to attack; but the facts are the current system of voting is more secure than any type of voting that has ever been used in the history of Georgia elections.

We in the State of Georgia did not sign a contract with our vendor and simply walk away from the process. Rather, we have provided oversight and direction to our counties through every step of implementation and we continue to do so to date.

Let us consider the practical realities of paper receipt for just a moment. We have discussed how would each receipt be collected, how does the voter view it. You saw the prototype from Maryland. Georgia has created one that is about 31 inches long. It brings into question how you would store the paper for some 4 million voters in the State of Georgia and the voiding and the spoiling of the ballots.

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I heard mentioned earlier the possibility of a paper shredder. I am not sure we want paper shredders in our polling places on Election Day. There is also the question of what is the official record of the election? I have heard a lot of controversy about which would be the official. If it is the paper, what happens if so much as one piece of that paper were to become mangled or destroyed? Have you then called your entire election into question?

If even 1 percent of Georgia precincts were to experience problems implementing a paper trail on Election Day, that would translate to 30 polling places in the State of Georgia. I can assure you if that were to happen, it would no doubt be portrayed as a catastrophic failure by the public and by the press.

We also find it very remarkable that even as many activists are calling for this hurried implementation of paper receipts, these same critics express no concern whatsoever over the 30 million Americans who will be voting on a punch-card system this November. We can be certain that hundreds upon thousands of Americans will be disenfranchised by these punch-card voting systems which have been proven to be far more inaccurate than our current system of voting. And yet we hear no impassioned pleas from journalists or the activists that these systems must be decertified before November, and we have to ask the question, Why?

We agree, as do all election officials, that we must continue to embrace a concept of continuous improvement in election security and we recognize that much of the debate has been healthy. And some of it has surfaced significant shortcomings which needed to be addressed.

We in Georgia cannot overstate the value of having an independent, technically competent center like the Kennesaw Center for Election Assistance which is staffed with elections-oriented computer scientists who are equipped to audit and test voting systems. Every day we continue to review our security practices. And over the last 18 months, we have strengthened our procedures and our practices a great deal.

I applaud the interest of this distinguished committee in the important public policy issue, and we stand ready from Georgia to assist you in any way that we can. Thank you.

The CHAIRMAN. Thank you for your testimony.

[The statement of Ms. Rogers follows:]

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Testimony before the
House Administration Committee
By
Kathy Rogers, Director, Georgia Elections Division
and
Britain J. Williams, Ph.D., Professor Emeritus
Of Computer Science and Information Technology
Kennesaw State University

July 7, 2004

Introduction

The 2002 General Election was a milestone in Georgia history, as we became the first
state in the nation to successfully implement a statewide uniform system of electronic
voting. Georgia's transition to new electronic voting equipment was the result of an in-
depth analysis of the accuracy and accessibility of available voting systems, an extensive
statewide voter education program and poll worker training, and an unprecedented
partnership between state and county governments.

In the almost two years following that first election, Georgia counties have conducted
hundreds of elections using electronic voting. Numerous success stories have emerged
from nearly every corner of the state. Two themes quickly emerged: Georgia voters
young and old embraced and expressed confidence in the new voting system, and our
state's under-vote rate was dramatically reduced following the deployment of the
electronic voting platform. Georgia voters have overwhelmingly indicated their approval
of electronic voting in not one but two independent public opinion studies conducted by
the University of Georgia's Carl Vinson Institute.

In recent years a small group of political activists captured the attention of the media with
the conjecture that direct recording electronic (DRE) voting machines are inherently not
secure. Furthermore, they contend that the only way that these systems can be made
secure is by the addition of a Voter Verifiable Paper Ballot (VVPB). These activists'
conjectures gained respectability when they were joined by several computer scientists
from major universities. These academics claim that computer systems in general and
voting systems in particular cannot be made secure.

A DRE voting system is a comparatively simple computer application. The main line of
the system is to respond to a touch at a specific location on a touch-sensitive screen and
add one to the appropriate register. There is no requirement for intricate or complex
computations. There is no requirement to compute any logarithmic functions,
trigonometric functions, or even take the square root of anything.

The conjecture that using current technology we are unable to make such a simple system
secure and accurate is contradicted by the facts of our daily existence. We build secure

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and accurate computer systems that fly our airliners. We build secure and accurate computer systems that guide our submarines under the ice cap. We build secure and accurate computer systems that guide our astronauts to the moon and bring them safely back to earth. We submit to open heart surgery while a computer monitors our vital signs and controls an artificial heart and lung machine. The list of secure and accurate computer systems that monitor, control, and improve our lives is large and growing daily.

This is not to imply that our current DRE voting systems do not need to be improved. They do. But there are many aspects to a voting system other than accuracy and security. These include availability, reliability, maintainability, usability, and even affordability. Any change to a voting system must be evaluated on the basis of its impact upon the entire system. To this end Congress has created the Election Assistance Commission (EAC). This Commission has the resources and authority required to affect an orderly and disciplined evaluation of the state of the existing voting system technology and implement improvements to voting systems in an orderly manner.

The evidence is compelling that a rapid, poorly formulated forced addition of a paper ballot or receipt to the existing DRE voting systems is unnecessary and could have adverse consequences that far offset any perceived advantages. There is, in fact, no credible evidence that we are in imminent danger of a corrupted elections process created by new DRE voting systems. There is sufficient time, and a clear rationale, to allow the organizations and processes defined in the Help America Vote Act to perform their assigned duties and responsibilities.

To understand our perspective in Georgia and why we so strongly advocate the advantages of current generation electronic voting technology, it is important to know where we've been and why we took the path towards a uniform statewide DRE system.

Georgia's 2000 Election Experience

The 2000 Presidential Election served as a huge wake up call to a nation of voters and election officials. Alarmed by the high percentage of under-votes recorded by voting equipment in Florida, Georgia Secretary of State Cathy Cox compiled data on under-votes that occurred with Georgia's then existing voting equipment; a mix of lever, punch-card, optical scan and even paper ballots. The findings of that study were staggering. Not only did Georgia have a higher under-vote rate than Florida; at 3.5% our under-vote rate far exceeded the national average of 1.9% and was reported by the CalTech/MIT study as the third-highest in America. A study entitled "A Wake-Up Call for Election Reform and Change" was subsequently produced by the Secretary of State outlining the performance of Georgia's election equipment in each of its 159 counties during the 2000 General Election. Further analysis documented extremely large variations in under-vote rates between counties, as well as large under-vote variations between majority vs. minority precincts in the same county using the same equipment. In 2001 the ACLU, on behalf of several Georgia voters, sued the state, noting that, based upon the state's own data; the election platform then in place had a discriminatory impact and served to disenfranchise minority voters in counties throughout the state.

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The findings in the "Wake Up Call" report were alarming enough that in 2001 the Georgia General Assembly passed, at the request of the Secretary of State, Senate Bill 213 which provided for the creation of a 21st Century Voting Commission. This group was tasked with studying the accuracy and reliability of all nationally qualified voting systems and to provide a report on its findings and recommendations to the General Assembly. This Commission was comprised of a balanced, multi-partisan group of General Assembly members, election officials, technology experts, and other important stakeholders. The commission invested a significant amount of time studying reports on existing technology, visiting other states to observe elections using electronic voting systems, holding meetings to obtain public comment, and, most importantly, overseeing an electronic voting pilot project.

In November 2001, 13 cities participated in a pilot project, utilizing six different NASED-qualified and state-certified DRE systems from six different vendors, to conduct actual municipal elections. The cities were selected to assure geographic, demographic and partisan diversity. The University of Georgia's Survey Research Center was retained to perform an intercept, or "exit poll," of voters to measure their reactions to the equipment and attitudes about the deployment of new voting technologies.

Altogether, the State conducted a full year of study, evaluation and due diligence before making its recommendation for voting system reform. In January 2002 the 21st Century Voting Commission unanimously recommended to the Governor and General Assembly that Georgia adopt a statewide uniform system employing electronic voting equipment.

Election Day 2002

November 2, 2002 was an historic day for Georgia. For the first time, every voter was afforded the opportunity to cast a ballot in the same manner using the same equipment with precisely the same voting interface. A voter in one county did not receive the advantage of better technology while his counterpart in a neighboring county voted on antiquated voting equipment prone to high error rates. That fact sometimes seems to be forgotten today. By upgrading its voting platform Georgia corrected a problem that was close to being a disaster.

In that single day many concerns and fears were laid to rest; the elderly did not have difficulty voting and voters were not afraid of the new technology. Blind and visually-impaired voters who had previously never cast a ballot independently expressed their feeling of pride and accomplishment at being able to utilize the features of electronic voting that allowed them to vote unassisted for the first time.

Electronic voting has removed the opportunity for fraud and error that inevitably comes when humans record votes on paper and handle and count paper ballots. In light of the current clamor for the addition of a paper receipt, it is worth noting that every single documented case of election fraud in recent Georgia history has involved the use of a paper ballot.

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Georgia has taken huge strides in improving accuracy and ease of use, and the data gives us reason to be confident that a much higher percentage of the ballots cast in Georgia in November 2002 represented a true and accurate reflection of the voter's intent. Voters are allowed to review their ballot prior to touching the cast ballot button. No system has ever provided that capability before.

Six years ago, under Georgia's antiquated voting platform, the top-of-the ballot U.S. Senate under-vote was 4.8% of ballots cast. In 2002, after deployment of the new electronic system, the under-vote in the top-of-the ballot U.S. Senate race (an "apples to apples" comparison of system performance) was a mere 0.87 percent. That is a more than five-fold reduction in under-voting, a decrease of 71,000 ballots that showed no choice in the top of the ticket race. This is clear and convincing evidence that an electronic voting platform that prohibits over-votes, that provides the voter with feedback and that offers a summary screen to check and review ballot choices can dramatically improve the accuracy of the vote count.

Voter Confidence Validated

The Carl Vinson Institute of Government at the University of Georgia conducted a public opinion survey following the 2002 General Election and found that Georgians overwhelmingly prefer electronic voting to other methods. More than 70% of respondents reported being "very confident" that their vote was accurately counted, a sharp increase from the 56% who responded to that same question during the 2001 pilot project. Some 97% of voters said they "experienced no difficulties" when using electronic voting terminals.

The Vinson Institute followed up with a second survey one year later, in November 2003, which confirmed that over 70% of voters are still confident in Georgia's electronic voting platform. This same survey also noted that all voters in all age groups, income and education levels, and racial and ethnic groupings believe that electronic voting is superior to forms of voting previously used in Georgia.

The Arguments For, and Against, Voter Verifiable Paper Ballots

Those who distrust current DRE voting systems and believe they are easily manipulated to create fraudulent election outcomes have prescribed what they claim is foolproof solution: the addition of a paper receipt, or voter verifiable paper ballot. These claims warrant close examination.

When we vote to elect the members of the board of directors of a company, to elect the officers of a social or civic club, or to elect the officers of a labor union we cast a "ballot" (sometimes called a proxy). This ballot contains unique identifiers such as a signature, social security number, or member number that can be used by the election monitors to

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validate the ballots. Given the ease with which the individual ballots can be validated it is unusual for the persons conducting these types of elections to expend the effort and expense necessary to purchase and implement a commercial, NASED Qualified voting system. They typically gather the votes and use their in-house computer technicians to develop a system to tally the votes. Any anomaly or challenge can be resolved by resorting to the verified ballots.

When we vote in a municipal, state, or federal election we do not cast a ballot in the manner described above. We cast a "secret" ballot, and this is an essential distinction. This ballot, by law, can contain no unique identifier that will enable anyone, including the voter, to identify the person who cast the ballot. Thus, in a municipal, state, or federal election there cannot exist a truly "Voter Verifiable Ballot", paper or otherwise

The only paper output that can be added to a DRE voting system is the capability to produce a paper "receipt". There are at least three DRE voting systems in the process of obtaining NASED Qualification that have the ability to produce a paper receipt. These systems demonstrate the problems that can result from attempts to implement modifications to a voting system in the absence of clearly defined, well thought out standards.

The EAC Voting System Standards (formerly known as the FEC Voting System Standards) do not currently contain a specification for a paper receipt produced by a DRE voting machine. The voting systems that produce paper receipts are being NASED Qualified under a provision of the Standards that permits optional features. In particular, the Standards require that a voting system comply with its own documentation. If the voting system documentation defines an optional feature (i.e. a printed receipt) then the Independent Test Agency (ITA) verifies that this feature is implemented in the system exactly as defined in the documentation.

As a result, the paper receipts produced by the voting systems currently seeking NASED qualification do not comply with the EAC Standards requirements for a ballot. For example, these systems will not comply with the Standards requirement for high contrast or increased print size to accommodate a person with impaired vision.   Also, they will not comply with the Standards requirement to produce ballots in multiple languages.

Operational Considerations of Adding Paper Receipt

Experience has taught us that the deployment of a significant new addition to a DRE platform must also be examined in the light of Election Day reality. The success or failure of any voting system rests on the shoulders of poll managers and poll workers, who are, after all, citizen volunteers, many of them elderly, paid a very modest sum to operate voting equipment perhaps only once or twice a year. Paper receipt advocates who compare them to employees at WalMart or Target miss the mark entirely - poll workers are not and never will be full-fledged employees, who can expect regular sessions of training and who have multiple levels of professional supervision at their workplace. Therefore, not only must poll workers be carefully trained, but equipment

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must be designed to minimize the technical and operational requirements they need to master in order to carry out a successful election. If, because of the demands of new and more complicated equipment that includes printers and related components, even one percent of Georgia precincts experience problems making their polling places operational on election morning, that translates into more than 30 precincts unable to allow voting to take place; a situation that no doubt would be portrayed by the media and perceived by the public as a catastrophic failure.

Just as important, we should make absolutely certain that the addition of a paper receipt function, if implemented, does not put us back into unacceptably high under-vote rates that we have worked so hard to overcome. In the sterile environment of a computer science laboratory, a new paper receipt prototype may appear simple and fool proof. But in the real world of elections, with equipment that must be accessible to voters with widely divergent levels of education, literacy, language proficiency, experience and physical ability or disability, it is crucial that the user interface be simple, straightforward and intuitive. Georgia spent enormous time studying this very issue, and the experience of other jurisdictions, before adopting a modern DRE platform as its preferred model. That due diligence paid off with plummeting under-vote rates - across all demographic groupings - and a much more accurate election outcome that re-enfranchised tens of thousands of voters. It would be tragic if a hurried, and inadequately researched, requirement for a paper receipt function makes the voter interface so complicated that it increases voter confusion and drives back upward the incidence of under-voting.

We Are Not in Imminent Danger

Computers have been used to tally elections in America since October, 1964 when DeKalb County and Fulton County, Georgia were the first jurisdictions in America to employ a punch-card voting system. Since then the State has used every type of computer-based voting system: punch-card, central count optical scan, precinct based optical scan, and direct recording electronic voting systems. During these forty years there have been many attempts to defraud a Georgia election, but not a single one of these attempts has involved an attack on the computer system. This is probably due, at least in part, to the fact that many people believe that they know how to successfully alter a piece of paper, but very few people believe that they have the ability required to successfully alter a computer system.

The Georgia DRE voting system is both accurate and secure. Measures are in place to insure that the voting system computers are as accurate and secure as current computer technology permits. In addition, physical security measures, an essential ingredient to secure elections and a topic that is often ignored by the critics of DRE systems, are in place to compensate for the remaining vulnerabilities that have been identified in the computer system. An extensive, statewide training program has been implemented to prepare our election officials and poll workers to recognize and react to any problems that may occur during the course of an election.

The Role of the KSU Center for Election Systems in Georgia

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The Center for Election Systems at Kennesaw State University was created in 2002 to provide support and independent testing to all 159 Georgia counties. The Center for Election Systems at KSU tested every touch screen unit, encoder, optical scan ballot reader and server used in the 2002 General election. Tens of thousands of voting terminals and related components were tested by the Center, and its staff continues to travel to each of Georgia's 159 counties to independently test and validate all new equipment purchases.

In addition to testing, The Center for Election Systems now offers support to counties and their staff in the areas of poll worker training, enhanced courses on election management training, and courses for new election officials.

Election System Security Has Multiple Components

Those who are charged with conducting elections understand that the security of an election does not rest on the performance of equipment alone - whatever that voting platform may be. These election experts are well acquainted with the entire umbrella of security that surrounds the voting process. Every feature of the comprehensive security protocol, including paperwork procedures and physical security, is important to assuring the integrity of the voting process. A secure and accurate election begins long before Election Day and is comprised of many levels and layers of testing.

Computer System Security in the Georgia Voting System

Georgia has been a full participant in the EAC Voting Systems Standards project since its inception. Before a voting system can be considered for use in Georgia, it must be examined by the ITAs for compliance with the EAC Voting System Standards. Georgia considers a voting system to consist of a specific version of each of the system components: hardware, voting system software, and operating system software. Any change to any component, no matter how insignificant, is considered a different system and requires re-examination, both NASED Qualification and State Certification, of the entire system.

When a voting system successfully completes ITA qualification testing and is issued a NASED qualification number, it can be brought into Georgia for State Certification Testing. The system to be tested is not obtained from the vendor but is transmitted to the KSU Center for Election Systems directly from the ITAs.

The KSU Center for Election Systems conducts a series of tests on the system. Some tests examine the level of difficulty associated with operating the system. Another tests the capacity of the system to accommodate the maximum number of ballots that might be cast in a large precinct or at an in-person absentee voting location. One test is specifically designed by the KSU Center for Information Security, Education, and Awareness to detect fraudulent or malicious code that might be present in the system. This test is designed to wake up any, so called, Trojan horse that might be present. In all

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of these tests a known pattern of votes is cast and compared with the output of the system.

If any of these tests result in a modification to the system, the entire system is returned to the vendor for correction and the NASED Qualification/ State Certification test cycle is repeated.

When the system successfully passes State Certification and is certified for use in Georgia, the KSU Center for Election Systems prepares an electronic signature of the system and archives the software source code and object code. The vendor is then authorized to install the system in the 159 county election offices. The primary reason for allowing the vendor to perform the installation is to protect the warranty on the system.

When the vendor notifies the State that they have completed installation in a particular county, the KSU Center for Election Systems sends a team to the county to conduct Acceptance Tests. These tests verify that the hardware is operating correctly and that the correct version of the software has been installed. During these tests the electronic signature of the software installed in the county is compared with the electronic signature of the software archived by the KSU Center for Election Systems to validate that the county system is identical to the system that was State certified.

The following describes three distinct objectives that are attained in order to insure the security and integrity of the Georgia voting system.

Objective 1: Verify that the voting system, as delivered from the ITAs, is free from extraneous or fraudulent code.

To attain this objective the KSU Center for Election Systems performs the following activities:

- Setup and conduct sample elections with known outcomes that are representative of Georgia general and primary election.
- Conduct high-volume tests to determine capacity limits of the system.
- Conduct tests to determine the systems ability to recover from various types of errors.
- Conduct tests to detect extraneous or fraudulent code.

Objective 2: Verify that the system as installed by the vendor in the local jurisdictions is identical to the system received from the ITAs and certified by the KSU Center for Election Systems.

To attain this objective the KSU Center for Election Systems performs the following activities:

- Prepare a validation program that will detect any changes to the system installed in the local jurisdictions.

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- Run the validation program against the system installed in the local jurisdiction (after vendor installation).
- Provide the local jurisdiction with the ability to run the validation program.

Objective 3: Verify at specific and random times that the system has not been modified in any way.

Local Election Superintendents have the ability perform the following activities:
- Run the validation program immediately before beginning to define an election.
- Run the validation program immediately upon the completion of an election.
- Run the validation program after any suspicious event. Run the validation program at random times.

The validation program that is used to validate the correctness of installed systems is based on NIST certified SHA-1 contained in FIPS 180-2, August 2002 and includes the following:

32 bit CRC
128 bit MD 5 Hash
160 bit SHA-1 Hash

It is estimated that the chance of modifying the software in such a manner that this hash would not detect the modification is less than 1 in 1,000,000,000.

Procedural Security in the Georgia Voting System

Rigid policies and procedures are in place that control who can access to the election system, when they can access the system, what components they can access, and what function they are allowed to perform. The most familiar of these procedures is the process that a voter must go through in order to cast a vote on the system. Other procedures define the activities of election officials and poll workers.

Many of these procedures are directed toward insuring that the correct versions of the system software is initially installed in the election management system computers and voting stations and, subsequently, testing at various times to insure that this software has not been altered. We have already discussed this process.

Accuracy and uniformity of the ballots is critical to the success of an election.   If a county so desires, the KSU Center will prepare the county ballot. Before the 2004 Presidential Primary Election the KSU Center prepared the ballots for 102 of the State's 159 counties. To achieve ballot accuracy and uniformity, the KSU Center for Election Systems reviews the ballot formats from all counties prior to each election.

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Physical Security in the Georgia Voting System

The first line of security defense in any system is physical security. All other security measures go for naught if you leave the doors unlocked. The following is an overview of the physical security implemented in the Georgia voting system.

The election management system computers are kept in locked offices within the county election offices.

The election management system computers are not connected to any communication system, including the Internet, and contain no software other than the Windows operating system and its utilities and the election management system object code.

No person is allowed access to the election management system computer until his or her identity and purpose have been clearly established by the county Election Superintendent.

The voting stations are stored in their voting booth cases in locked county warehouse facilities.

At the precincts the PC memory cards in the touch screen voting stations are in a locked compartment on the voting stations. The Precinct Manager is the only person in a precinct with a key to this compartment.

After the polls close a printed report of the precinct results is posted on the precinct door. This places the results from the precinct in the public domain and any subsequent alteration of these results is easily detected.

The PC memory cards from a precinct are transported from the precinct to the county elections office by a sworn election official or a sworn law enforcement officer. Precinct managers may, at their option, send the precinct results to the county office via modem. However, these modem results are unofficial and are for the benefit of the press and the candidates. The official results are always computed directly from the memory cards.

The area of the precinct that contains the voting stations is secure. A voter is not allowed to enter this area until a voting station is available for his or her use. However, there are no enclosed voting booths and the secure area is in plain view of the poll workers, candidate representatives, party poll watchers, advocacy poll watchers, and media representatives. Any unusual behavior by a voter will be immediately detected.

Training and Ballot Building for Georgia Elections

One benefit of using a uniform technology throughout the State is that many ballot building procedures can be centralized. This enables better error detection and correction

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as well as efficiency in the production of redundant ballot content (federal and statewide races and issues). Ballots can be reviewed for compliance with State law as well as proper district and precinct information. In the most recent statewide election the KSU Center for Election Systems prepared the ballots for 102 of the States' 159 counties. The KSU Center reviews all ballots, regardless of who prepared them, for accuracy and completeness. Following this review the ballots are returned to the counties for final review and acceptance.

The training issues in election technologies are unique. The process is heavily dependent upon personnel that are both volunteer and infrequent users of the system. The processes are a combination of manual and computerized operations that are the result of state and federal election law, state election rules, election tradition, and functional requirements of the election technologies. The processes are dynamic and change in varying degrees from election to election, requiring a constant vigilance of training objectives, materials, and curriculum. The KSU Center is responsible for working with the vendor and state and county officials in the development and maintenance of training programs.

In 2003 the State of Georgia enacted legislation that requires all election superintendents to successfully complete 64 hours of training. This training program includes election law, ethics, and election procedures, including those unique to the current DRE technology use in Georgia. This training helps to insure that appropriate security procedures are understood and implemented at the county and precinct level.

Conclusion

Members of this Committee as well as all election officials and policymakers have a difficult task - to sift through the rhetoric and headlines and accusations, some of them the product of partisan resentments - to separate fact from fiction and carefully assess the strengths and vulnerabilities of voting system alternatives. The claims and assertions of electronic voting opponents must be scrutinized with the same ferocity that has been applied to the statements and actions of equipment vendors and election officials. The successful experience of Georgia, and our enormous increase in accuracy and accessibility with minimal operational flaws and zero -not one - documented case of vote tampering or fraud - should be weighed as well.

No one knowledgeable about elections would come before you and claim that the current system are the best that can ever be devised, or suggest to you that we cannot make even more accurate, accessible and secure the systems that are now in use. A culture of continuous improvement is one that we have adopted in Georgia elections, and one that should be embraced by every jurisdiction. And so we applaud all those who offer responsible, well-reasoned criticisms and who have carefully considered recommendations for improvement. I am confident that this Committee will exercise great care and discernment in evaluating electronic voting systems, as we all strive to improve still further America's system of elections and voting.

Thank you for the opportunity to share my thoughts with this distinguished panel.

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About the Authors:

Kathy Rogers is the Director of Elections Administration for the Georgia Office of
Secretary of State. Ms. Rogers joined the Secretary of State's office in 2002 to spearhead
implementation of the uniform touch-screen voting system adopted by the State of
Georgia. Prior to joining the Secretary of State's team, Ms. Rogers served as the Election
Supervisor for Chatham County Board of Elections (Savannah, Georgia). Ms. Rogers
has almost two decades of election experience and has conducted elections with various
types of voting equipment during her career. Ms. Rogers participates in several election
organizations including the Georgia Election Officials Association, the National Election
Organization known as IACREOT, the National Association of State Election Directors,
the national Election Center, and also represents the State of Georgia on the newly
created Help America Vote Advisory Board. Ms. Rogers recently graduated as a
Certified Elections and Registration Administrator through a program administered by
the Election Center and Auburn University.

Brit Williams is Professor Emeritus of Computer Science and Information Systems at
Kennesaw State University. He was a consultant to the FEC during the development of
the FEC Voting System Standards in 1990 and again in 2002. He is currently a member
of the NASED Voting Systems Board and Chair of the NASED Voting Systems Board
Technical Committee. He represents NASED on the newly created Help America Vote
Technical Guidelines Development Committee. Dr. Williams has been conducting
certification evaluations of computer-based voting systems for the State of Georgia since
1986. He also assists the states of Pennsylvania, Maryland and Virginia with certification
evaluations of computer-based voting systems.

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Kathy Rogers is the Director of Elections Administration for the Georgia Office of Secretary of State. Ms. Rogers joined the Secretary of State's office in 2002 to spearhead implementation of the uniform touch-screen voting system adopted by the State of Georgia. Prior to joining the Secretary of State's team, Ms. Rogers served as the Election Supervisor for Chatham County Board of Elections (Savannah, Georgia). Ms. Rogers has almost two decades of election experience and has conducted elections with various types of voting equipment during her career. Ms. Rogers participates in several election organizations including the Georgia Election Officials Association, the National Election Organization known as IACREOT, the National Association of State Election Directors, the national Election Center, and also represents the State of Georgia on the newly created Help America Vote Advisory Board. Ms. Rogers recently graduated as a Certified Elections and Registration Administrator through a program administered by the Election Center and Auburn University.